UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,115	10/29/2003	Alexander C. Loui	78311DMW	6929

7590	09/26/2006

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EXAMINER
BITAR, NANCY

ART UNIT	PAPER NUMBER
2624	

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	10/696,115	LOUI ET AL.
Office Action Summary	Examiner	Art Unit	
	Nancy Bitar	2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 October 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-10</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-10</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>29 October 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>11/17/2003</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claim 1 is objected to because of the following informalities: In claim 1 part b

applicant recites the limitation of "said computer system", which is an incomplete

sentence. The phrase "said computer system" should be changed to "said computer

system including". Appropriate correction is required.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by

Loui et al. (EP 0990996).

As to independent claim 1, Loui et al. discloses a method for obtaining and

automatically classifying images into events, the method comprising the steps of:

(a) obtaining a group of images from a digital source (digitized images are input

into the computer system, see paragraph [0013]), wherein images are in chronological

order (the image will first be ranked S10 in chronological order, see paragraph [0013]);

(b) transferring the group of images to a computer system (images are directly

input into the computer system, see paragraph [0012]).Moreover, Loui et al. teaches a

(c) clustering the images into smaller groups based on chronological image

similarity of nearby images (the contents of the images are analyzed S20 for

determining whether images closest in time to an adjacent event should be maintained

in the event as defined by the clustering analysis, see paragraph [0013]) by computing

histograms of the images and comparing histogram intersection values obtained

therefrom with one or more thresholds (a histogram of the entire image of both images

is computed S50, a global histogram. A comparison of the two histograms is performed

by histogram intersection value S60, see paragraph [0024], note that if the intersection

is under a threshold S65, preferably 0.34, although other thresholds may be used, the

images are different. If the threshold is met or exceeded S65, then a block-based

histogram correlation will be performed S70, see paragraph [0024])whereby the

clustering based on chronological image similarity is done in at least one stage by

comparing each image with its direct neighboring images (within each segment adjacent

pictures are compared, see paragraph [0020]) and

(d) evaluating the clustered images against a final condition(histogram correlator

S30 for analyzing the content, see paragraph [0014]) related to at least one of a

predetermined group maximum for the number of smaller groups (block-based

histogram technique may produce five subject groupings (for example groups 1-5) from

the one event i, as illustrated in the drawing ,figure 6)and a predetermined maximum

number of isolated pictures(for example group 2, 3, and 5, figure 6), whereby the

smaller groups are classified as events if the final condition is met (single image groups

can be better arranged within the event grouping, see paragraph[0023]).

As to dependent claim 2, Loui et al. teaches the method as in claim 1, wherein

the clustering based on chronological image similarity in step (c) is done in at least two

stages (k-means clustering technique, boundary check, see paragraph [0014])by

comparing each image with its direct neighboring images(i5 with j1,figure 5) and

secondly with its second neighboring images (i5 with j2,figure 5).

As to dependent claim 3, Loui et al. teaches the method as in claim 1, wherein

step (c) includes clustering the images into smaller groups based on chronological

image similarity of nearby images by using a block-based histogram technique (block

based histogram correlation used in the above analysis, see paragraph [0024]).

As to dependent claim 4, Loui et al. teaches the method as in claim 3, wherein

the block-based histogram technique comprises analyzing the events for content by

dividing the images into a plurality of blocks and grouping the images into subject

grouping based on block-based histogram correlation which includes computing a color

histogram of each block (for each block a color histogram is computed, see paragraph

[0024]) and computing a histogram intersection value (the block histograms between

the reference image and the candidate image are compared using the histogram

intersection equation defined above S80, see paragraph [0025])which determines the

similarity between blocks (if the average intersection value is between these two

thresholds, the two images are considered similar, see paragraph [0025]) ,thereby

refining and improving the overall classification and subject grouping of the events (a

refinement and subject re-arrangement analysis S40, see paragraph [0016]).

As to dependent claim 5, Loui et al. teaches the method as in claim 1, whereby if the final conditions are not initially met, further comprising the step of decrementing one or more of the thresholds(the average intersection value will be compared to a low threshold (preferably 0.3555)and a high threshold (preferably 0.557), see paragraph [0025]) as applicant disclose the value 0.015 is a decrement factor and it is added that other values may prove workable described in the specification [0057], and iterating through steps (c) and (d) until the final conditions are met(the above analysis and the shift can be repeated S120 to check for similarity, see paragraph [0027]).

As to dependent claim 6, Loui et al. teaches the method as in claim 5, wherein the number of iterations is limited (right ,left, up and down, see paragraph [0027], note that the number of iteration is determined with respect to the shift).

. As to dependent claim 7, Loui et al. teaches the method as in claim 1, wherein the digital source is a digital camera (the images are either directly input into the computer system (for example a digital camera, see paragraph [0012]).

As to dependent claim 8, Loui et al. teaches the method as in claim 1, wherein the digital source is a film scanner for scanning a photographic film (digitized before input into the computer system (for example scanning (i.e. film scanner),see paragraph[0012], note that a film scanner is a device made for scanning photographic film directly into a computer without the use of any intermediate printmaking).

As to dependent claim 9, Loui et al. teaches the method as in claim 1, wherein the digital source is a CD ROM (see paragraph [0010]).

As to dependent claim 10, Loui et al. teaches the method as in claim 1, wherein the digital source is one or more image files from a user hard disk (solid state electronic storage, see paragraph [0010], note that the solid state storage are considered a hard drive based on high density and uses memory chips instead of rotating platters for data storage).

Conclusion

4.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kawamura et al. (US 5576759) is cited to teach a method that reduces photographed images and forms reduced image data for indexing use.

Miyatake et al. (US 5,083,860) is cited to teach motion picture images to be processes to a processing unit in a time series by taking the frame as the unit, calculating the feature quantity including a color histogram.

Sun et al. (US 6,993,180 B2) is cited to teach a method that comprises the step of computing a color correlogram and then grouping the colors into groups based on relative similarities .

Hansen et al.(Models for Time Coalescence in Event Logs) ,Jeffery P. Hansen and Daniel P. Siewiorek, Department of Electric and Computer Engineering ,Carnegie Mellon University,Pittsburg,PA15213 USA. Is cited to teach data reduction that is widely used in the literature of events.

Keinosuke Fukanaga(XP-002140074),"Introduction to Statistical Pattern

Recognition", Boston, academic, US, pages 508-518) is cited to teach the parametric

approach as well as the nonparametric approach of clustering.

Gur et al.(US 5,872,859) is cited to teach a computerized method for detecting

regions of interest according to global image characteristics.

Inquiries

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nancy Bitar whose telephone number is 571-270-1041.

The examiner can normally be reached on Mon-Fri (7:30a.m. to 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chanh Nguyen can be reached on 571-272-0000. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO
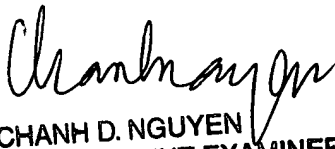
Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nancy Bitar   09/01/06

CHANH D. NGUYEN
SUPERVISORY PATENT EXAMINER